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ABSTRACT

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The present invention relates to a modified Θ - Al_2O_3 -supported nickel reforming catalyst and its use for producing synthesis gas from natural gas, more specifically to a nickel reforming catalyst expressed by the following formula 1, having improved coke resistance, high-temperature catalysis stability and catalytic activity, which is prepared by coating nickel or mixture of nickel and cocatalyst ($\text{M}_1\text{-M}_2\text{-Ni}$) on a $\Theta\text{-Al}_2\text{O}_3$ support modified with metal ($\text{M}_3\text{-M}_4\text{-ZrO}_2/\Theta\text{-Al}_2\text{O}_3$), and its use for producing synthesis gas from natural gas through steam reforming, oxygen reforming or steam-oxygen reforming,



wherein M_1 is an alkali metal; each of M_2 and M_3 is an alkaline earth metal; and M_4 is a III B element or a lanthanide.